Application No. 10/061,435
Amndt.dated: April 26, 2005
Reply to Office Action mailed: March 18, 2005

REMARKS/ARGUMENTS:

Claims 1-42 remain pending in this application. No claims have been cancelled or added. Claims 1, 3, 5,10, 12, 19, 22, 24, 31, 32, 33 and 40 have been amended and all claims are believed to be in condition for allowance.

Claim Objections

The objection to claims 32, 36 and 37 has been addressed by deletion of the redundant language from that claim. A corrected page 9, to replace page 9 of the Response filed on December 22, 2004, is attached with the status of claim 34 correctly indicated as "(currently amended)".

Rejections under 35 US 112

The rejection of Claim 3 (together with its dependent claim 5) and claim 24 (together with its dependent claim 26) arose because of inadvertent omission in the Response filed December 22, 2004, to include the subject matter of claims 2 and 23 in amended claims 3 and 24, respectively, despite assertion in Applicants' remarks that such change had been made. Amended Claims 3 and 24 now overcome this rejection moot. In claim 3, recitation of "a bridge to a network" has been deleted, so that claim 3 is consistent with claim 24, and the allowability of claim 3 should not be affected. The Office Action mailed September 28, 2004 indicated allowability of claims 3 and 24, if rewritten, and those claims as amended are believed to remain allowable together with their dependent claims 5, 10, 12, 13, 26, 31, 33 and 34.

Allowable Claims

The indication of allowable subject matter in claims 19-21, 36, 37, and 40-42 is again noted with appreciation. The subject matter of claim 19 has been added to it parent method claim 1 as originally filed (i.e. the matter added by amendment filed December 22, 2004 has been deleted) and amended claim 1 is believed to be in condition for allowance together with its dependent claims 2, 4, 6-9, 11, 14 -18, 20 and 21. The subject matter of claim 40 has been added to its parent system claim 22 as originally filed (i.e. the matter added by amendment filed December 22, 2004 has been deleted) and amended claim 22 is believed to be in condition

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for allowance together with its dependent claims 23, 25, 27-30, 32, 35-39, 41 and 42. The subject matter now deleted from each of claims 1 and 22 has been presented in broadened form (supported by the specification at page 15, lines 12-13) in amended claims 19 and 40, respectively dependent from claims 1 and 22, which also are believed to be in condition for allowance.

Comments on grounds of rejection.

Claims as subject to the grounds of rejection under 35 US 103 are no longer being prosecuted in this application. However, this is not to be construed as concurrence with the Examiner's arguments and grounds of rejection. For example, while the Examiner continued to rely on Ohguro and Griffin in the grounds of rejection under 35 US 103 advanced in the Office Action, it is noted that the grounds of rejection were supplemented by citing US Patent 6,587, 961 (Garnett) disclosing, inter alia, a bridge between processor sets and a network. Without addressing the details of Garnett, Applicants' remain convinced that the Examiner's assertions based on Ohguro and Griffin are not tenable under pertinent case law and MPEP 2143. It is Applicants' position that, at best, the Examiner's position might have been characterized as an assertion it would have been obvious to replace Ohguro's "input/output adapter IOA"(col. 5, lines 63-64) by Griffin's "external interface that provides a connection to an external network via, for example, an RJ-45 connector or coaxial connector" (paragraph [0072]). But it is unclear (and the Examiner did not address), for example, how Griffin's "RJ-45 connector or coaxial connector" would be compatible with Ohguro's requirement that "data [are to be] read from the IO adapter IOA [and] sent to the selector RSEL through the IO read bus IORB" – apparently a multi-line bus (Ohguro, col. 6, lines 25-26.) and thus the rejection is inconsistent with MPEP 2143.01. In part, the Examiner's position is based on an assertion that "a coaxial cable connection is considered to constitute a 'bus'", citing to a dictionary definition apparently dating back to 1998, whereas a Microsoft Compute Dictionary copyright dated 2002 (contemporaneous with the filing date of the present application) defines: "bus . . . " A set of hardware lines (conductors) used for data transfer among the components of a computer system. . . " (copy attached). This does not support the Examiner's assertion. No objective evidence was contained in the Office Action that the disclosures of Ohguro and Griffin provide a concrete suggestion for the generic abstraction asserted in the Office Action that it would

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have been obvious "to substitute the bus bridge to a network, taught in Griffin, for the I/O bridge taught in Ohguro. . .". That assertion is far beyond the specifics taught by Griffin (coaxial connector) and by Ohguro in relation to his disclosed I/O adapter. With respect, the Examiner's assertions appear to be no more than speculation.
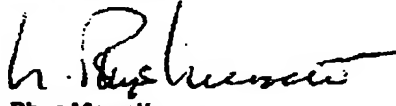
The propriety of a §103 rejection is to be determined by whether the reference teachings appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed substitution, combination, or other modifications. *In re Lintner*, 173 USPQ 560, 562 (CCPA 1972). A concrete suggestion must be present in the cited art for a proper obviousness rejection to be made. *C.R. Bard Inc. v. M3 Systems Inc.*, 48 USPQ 2d 1225 (Fed. Cir. 1998). Neither Ohguro nor Griffin contain any "concrete suggestion" to combine their specific teachings (coaxial connector/interface (Griffin) and I/O adapter (Ohguro) much less the "bus bridge" (Griffin) substitution for an "I/O adapter" (Ohguro) abstraction speculated in the Office Action. Furthermore, the Examiner has adduced no evidence as to how replacement of Ohguro's I/O adapter with Griffin's "coaxial connector" would not render Ohguro unsatisfactory for its intended purpose – thus failing to meet one of the criteria required by MPEP 2143.01.

CONCLUSION.

It is believed this amendment and response address all issues raised in the Office Action. Based on the claim amendments and the above discussion it is believed all of claims 1-42 re patentable over the cited references and in condition for allowance. Favorable consideration and early allowance of the pending claims are respectfully solicited. If there are any remaining issues that could be resolved by discussion, a telephone call to the undersigned attorney at (972) 862-7428 would be appreciated.

Date: April 26, 2005   Respectfully submitted,

Hewlett-Packard Company
Intellectual Property Administration
3404 E. Harmony Road
Mail Stop 35   N. Rhys Merrett
Fort Collins, CO 80528-9599   Registration No. 27,250
                                                  Attorney for Applicant

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N. Rhys Merrett
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Attorney for Applicant

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31. (original) The system of claim 23 further comprising a main memory, the system being configured to detect divergence by:

comparing memory commands generated by the primary processor with memory commands generated by the secondary processor;

executing only the memory commands generated by the primary processor; and

signaling a divergence detection if the memory commands issued by the primary processor differ from the memory commands issued by the secondary processor.

32. (original) The system of claim 22 further comprising:

a bridge to an external network, the computer system being configured to:

detect a divergence in the operation of the primary and secondary processors at the bridge to the network; and

shut off the bridge to the network immediately unless the error has previously been determined to be a recoverable error.

33. (original) The system of claim 23 wherein the error-handling module does divergence detection by comparing unique signatures of processor state received from the primary and secondary processors.

34. (currently amended)   The system of claim [[32]] 33 wherein the unique signatures are generated by applying an algorithm to state information for the primary and secondary processors.

35. (original) The system of claim 22 wherein the reset and restart of the primary and secondary processors includes the step of:

conducting first and second flushes of cache memory of either the primary or the secondary processor.

36. (original) The system of claim 32 wherein the bridge is configured to conduct a high-speed reset and restart during the reset and restart of the primary and secondary processors.

37. (original) The system of claim 36 wherein the bridge to the network has a custom high-speed reset and restart procedure.

38. (original) The system of claim 22 further comprising a watchdog timer, the system treating the error as a non-recoverable error if the watchdog timer expires during the reset and restart of the primary and secondary processors.

39. (original) The system of claim 38 wherein the system conducts a hard-reset of the lockstep computer processing system upon expiry of the watchdog timer.

40. (original) The system of claim 22 further comprising:

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